

REMARKS

Claims 1-9 and 12-39, all the claims originally pending in the application, stand rejected. Claims 1-9, 12-16, 18, 19, 25, 34 and 39 have been cancelled. Claim 17 has been amended to incorporate the limitations of claims 18 and 19, effectively placing claim 19 into independent form. Claim 23 is amended to incorporate the limitations of claim 25, effectively placing claim 25 into independent form. Claim 27 has been amended to incorporate the limitations of claim 34, effectively placing claim 34 into independent form. Each of claims 32 and 35 has been amended to adjust its dependency. Finally, Claim 37 has been amended to incorporate the limitations of claim 39, effectively placing claim 39 into independent form.

In addition, Applicant wishes to thank the Examiner for the courtesy extended to Applicant's representatives at an interview conducted on May 24, 2005 at which agreement with respect to the patentability of the presently claimed invention was reached.

Claim Objections

Claim 4 is objected to. The objection to claim 4 is rendered moot by the cancellation of the claim.

Claim Rejections - 35 U.S.C. § 103

Claims 1, 4-9, 12-28, 30, 32 and 37-39 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Raychaudhuri (5,684,791) in view of Grossman et al (5,835,730). This rejection is traversed for at least the following reasons.

First, with regard to claims 1, 4-9, 12-16, 18, 19, 25 and 39, the rejection is moot in view of the cancellation of these claims. However, Applicant believes that for at least the reasons previously given and the reasons set forth herein, all of these claims are patentable over the cited art. Applicant reserves the right to file a continuation application on the subject matter of these claims and respectfully submits that Applicant's rights should not be prejudiced by the cancellation of these claims in the present application..

Second, with respect to independent claims 17, 23, 27 and 35, these claims now are focused on the transmission in channel of a table from a transmitting unit to a receiving unit, the

table containing the basis for conversion from a normal header to a compressed header so that decompression at the receiver can be achieved. There is no teaching in any of the cited art of such feature.

In particular, independent apparatus claims 17, 27 and 35 have been amended to add the content of dependent claims 19, 34 and 39, each of the independent claims now stating that “said apparatus further comprising means for transmitting via said satellite/wireless communication link from a transmitting location, comprising means (i)-(iv), to a receiving location, comprising means (v)-(viii), information for correlating original header and transmitted header information.” Independent method claim 23 also has been amended to incorporate the limitations of claim 25 and state “wherein said transmission step further comprises generating an input entry for a compression table and generating an entry for a decompression table and transmitting said decompression table entry for input into said decompression table via said satellite/wireless communication link.” The underscored features relate to the communication of the conversion table content from the transmitting station to the receiving station in-channel so that current conversion information is always provided at the receiving station.

This feature is taught in the present application at page 17, line 6 with respect to the generation and transmission of table information, and at page 19, line 6 with respect to the reception and updating of table information, respectively, where it is stated that:

The AHCUC Processor 1360 is operative to determine if the H compression table does not have a 2-octet index that corresponds to the 4 octet set in the original ATM cell. If no corresponding value is identified, the AHCUC Processor 1360 generates a new corresponding index entry for the H-table and provides information about the new entry to the receiving cell processor. The information is transferred by use of a unique cell format (AHCUC), as subsequently described. The AHCUC cells and the ATM cells with compressed headers are forwarded to the multiplexer 1370, which outputs a stream of cells with compressed headers and AHCUC cells from ATM Cell Processor port 1302. The stream will be forwarded to the buffer RAM 1020 in Fig. 2B prior to encoding, interleaving and transmission on line 25 of Fig. 2A.

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The portion of the ATM Cell processor that performs this function is the receiver interface as shown in Fig. 7. The combination of decompression table update cells

(AHCUC) and compressed cells that were transmitted in frames on WAN link 25, following decoding and separation into individual cells, are received at input 1701 and are demultiplexed at the demultiplexer 1710, resulting in a stream of individual compressed cells and AHCUC cells. The compressed ATM cells are input to the cell separator 1720, which provides the data portion of the cells to a combiner 1740. The separator 1720 outputs each compressed header to a header decompression circuit 1730, which accesses the decompression lookup table 1760 and converts each 3 octet compressed header into the full 5 octet header. The AHCUC processor 1750 receives the AHCUC cell, as illustrated in Fig 9, and updates the decompression lookup table 1760.

This feature as disclosed at pages 17-23, including the use of AHCUC processor 1350 at the transmitter and AHCUC processor 1750 at the receiver, correspond to the recited “means” in each of the apparatus claims, which are interpreted in accordance with 35 USC 112, sixth paragraph. No such structure, whether identical or equivalent, is present in the cited prior art of Raychaudhuri ‘791 or Grossman et al. Thus, these claims now should be patentable on the basis of the clear and express structural limitations in the rejected claims.

With respect to claim 25, the claim has clear and express method limitations that relate to the communication of updated table information from the transmitter to the receiver. The invention is not obvious from the two cited references.

Moreover, the references have fundamental limitations that make them inapplicable to even the broader claims, which have been cancelled in order to expedite the prosecution of the present application but not to abandon or waive Applicant’s right to protection of those broader claims.

In particular, as previously argued by Applicant in the present application, Raychaudhuri ‘791 does not teach packet-based communication between two local area networks, but is limited to communication between one network and an end terminal (mobile station). The issues involved in compressing headers in order to provide more efficient use of system capacity when communicating between two local area networks, as in the present invention, are significantly different from the issues involved in compressing headers in packet communications between a network and an end terminal.

Further, with respect to Grossman et al, the reference is concerned with compression of headers at a user location, downstream of any network to network communication. The header compression taught in Grossman et al is focused on making a disk controller 22 compatible with an RF output, as is clear from Fig. 1 of the patent, and is not concerned with network to network communication via a satellite/wireless link, as in the present invention.

Claims 2 and 3 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Raychaudhuri (5,684,791) in view of Grossman et al (5,835,730) and Pirez (5,572,548). This rejection is moot in view of the cancellation of these claims.

Claims 29, 31 and 33 are rejected as being unpatentable over Raychaudhuri (5,684,791) in view of Grossman et al (5,835,730) and in view of Milway (6,122,279). This rejection is traversed for at least the following reasons.

The basis for patentability of parent claim 27 would apply to this rejection as well since Milway does not remedy the basic deficiency of Raychaudhuri '791 in view of Grossman et al. There is no teaching of a table index being transmitted and tables at transmitters and receivers being used to permit header compression. Milway is cited merely for its teaching of a hash-based ATM switch. However, there is no discussion of header compression at all. Moreover, as to the system disclosed, the routing information is very different from header information and offers different features if compressed. The header is never modified.

Claims 34-36 are rejected as being unpatentable over Raychaudhuri (5,684,791) in view of Grossman et al (5,835,730) and in view of Miyake (5,271,010). This rejection is traversed for at least the following reasons.

First, as to claim 35, the rejection is moot in view of the cancellation of the claim.

Second, as to claims 34 and 36, the basis for patentability of parent claim 27 would apply to this rejection as well since Miyake also does not remedy the basic deficiency of Raychaudhuri '791 in view of Grossman et al. There is no teaching of a table index being transmitted and tables at transmitters and receivers being used to permit header compression. Miyake is cited merely for its teaching of a compression table and decompression table. However, that teaching relates to a VC identifier converter. Moreover, the use of the tables is quite different from the

header lookup table of the present invention, as the table is used for parallel comparison and not lookup. Further, the parallel comparison table is stored using a control path, not by passing messages along the message path, as with the AHCUC in the present invention. Indeed, there is no discussion of header compression at all. The header is never modified and, thus, no reason for combining with Raychaudhuri or Grossman et al.

Conclusion

Applicant has cancelled claims broadly directed to the generation of compressed headers and use of header compression techniques in ATM, frame relay and internet packet transmissions, and will pursue them in a continuation application. Applicant has focused the invention defined in the current application on the method and apparatus for creating the compression codes, storing them in tables and forwarding the table information from a transmitter to a receiver for use in decompression. The particular structure and steps for doing so, as originally set forth in dependent claims, now have been incorporated into the independent claims that remain in the application. None of the prior art teaches these features.

The Examiner has addressed in general the arguments previously made by the Applicant with respect to the previously claimed invention, but has not presented any basis for showing that the features now claimed are found in the prior art. Clearly, in the absence of relevant teachings, in the prior art, the Examiner cannot do so. Moreover, such features are not inherent, as there are many ways in which decoding information can be provided to a receiver, apart from the novel and unobvious techniques and structures taught and claimed by the Applicant/

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Amendment under 37 C.F.R. § 1.116
Application No. 09/462,894

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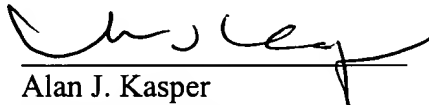
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